

Introdução à Geometria Lorentziana: Curvas e Superfícies

Ivo Terek Couto e Alexandre Lyberopoulos — ISBN: 9788583371397

Referências

- [1] Alexandrov, D., *A contribution to chronogeometry*, Canadian J. Math. 19, pp. 1119-1128, 1967.
- [2] Anciaux, H., *Minimal Submanifolds in Pseudo-Riemannian Geometry*, World Scientific, 2011.
- [3] Antonuccio, F., *Semi-Complex Analysis & Mathematical Physics (Corrected Version)*, eprint arXiv:gr-qc/9311032, 1993, <https://arxiv.org/pdf/gr-qc/9311032.pdf>.
- [4] Araújo, P. V., *Geometria Diferencial*, IMPA (Coleção Matemática Universitária), 2012.
- [5] Bär, C., *Elementary Differential Geometry*, Cambridge University Press, 2010.
- [6] Beem, J. K.; Ehrlich, P. E.; Easley, K. L., *Global Lorentzian Geometry*, CRC Press, 1996.
- [7] Calioli, C. A.; Domingues, H. H.; Costa, R. C. F., *Álgebra Linear e Aplicações*, Atual, 1995.
- [8] Cannon, J. W.; Floyd W. J.; Kenyon, R.; Parry, W. R., *Hyperbolic Geometry*, MSRI Publications, Flavors of Geometry 31, 1997.
- [9] Carroll, S., *Spacetime and Geometry, An Introduction to General Relativity*, Pearson Education, 2004.
- [10] Catoni et al., *Geometry of Minkowski Spacetime*, Springer-Verlag (Springer Briefs in Physics), 2011.
- [11] Chen, B. Y., *Pseudo-Riemannian Geometry, δ -invariants and Applications*, World Scientific, 2011.
- [12] Chern, S. S., *Curves and Surfaces in Euclidean Spaces*, Studies in Global Analysis, MAA Studies in Mathematics, The Mathematical Association of America, 1967.
- [13] Dieudonné, J., *La Géométrie des Groupes Classiques*, Springer-Verlag, 1971.
- [14] do Carmo, M. P., *Geometria Riemanniana*, IMPA (Coleção Projeto Euclides), 2005.
- [15] do Carmo, M. P., *Geometria Diferencial de Curvas e Superfícies*, SBM (Coleção Textos Universitários), 2014.
- [16] Faber, R., *Differential Geometry and Relativity Theory*, CRC Press, 1983.
- [17] Fang, Y., *Lectures on Minimal Surfaces in \mathbb{R}^3* , Proceedings of the Centre for Mathematics and Its Applications, Australian National University 35, 1996.
- [18] Foldes, S., *Hyperboloid preservation implies the Lorentz and Poincaré groups without dilations*, eprint arXiv:1009.3910, <https://arxiv.org/pdf/1009.3910.pdf>, 2010.
- [19] Fraleigh, J. B., *A First Course in Abstract Algebra*, Addison-Wesley, 1994.
- [20] Gelfand, I. M.; Fomin, S. V., *Calculus of Variations*, Prentice-Hall, 1963.
- [21] Goldman, R., *Curvature formulas for implicit curves and surfaces*, Computer Aided Geometric Design - Special issue: Geometric modelling and differential geometry 22, pp. 632-658, 2005.
- [22] Goldman, W. M.; Margulis, G. A., *Flat Lorentz 3-manifolds and cocompact Fuchsian groups. Crystallographic groups and their generalizations (Kortrijk, 1999)* Contemporary Mathematics 262, pp. 135-145, 2000.

- [23] Gray, A.; Abbena, E.; Salamon, S., *Modern Differential Geometry of Curves and Surfaces with Mathematica*, Chapman and Hall, 2016.
- [24] Hall, B. C., *An Elementary Introduction to Groups and Representations*, eprint arXiv:math-ph/0005032, <https://arxiv.org/pdf/math-ph/0005032>, 2000.
- [25] Hawking, S.; Ellis G., *The Large Scale Structure of Spacetime*, Cambridge Monographs on Mathematical Physics, 1973.
- [26] Hitzer, E., *Non-constant bounded holomorphic functions of hyperbolic numbers – Candidates for hyperbolic activation functions*, Proceedings of the First SICE Symposium on Computational Intelligence, pp. 23–28, 2011.
- [27] Hoffman, K.; Kunze, R., *Linear Algebra*, Prentice–Hall, 1971.
- [28] Horn, R. A.; Johnson, C. R., *Matrix Analysis*, Cambridge University Press, 2013.
- [29] Jaffe, A., *Lorentz Transformations, Rotations and Boosts*, notas de aula, 2013.
- [30] Javaloyes, M. A.; Sánchez, M., *An Introduction to Lorentzian Geometry and its Applications*, XVI Escola de Geometria Diferencial, São Paulo, 2010.
- [31] Khrennikov A.; Segre G., *An Introduction to Hyperbolic Analysis*, eprint arXiv:math-ph/0507053, <https://arxiv.org/pdf/math-ph/0507053.pdf>, 2005.
- [32] Kobayashi, O., *Maximal Surfaces in the 3-Dimensional Minkowski Space \mathbb{L}^3* , Tokyo J. of Math. Volume 06, pp. 297–309, 1983.
- [33] Kosheleva, O.; Kreinovich, V., *Observable Causality Implies Lorentz Group: Alexandrov–Zeeman–Type Theorem for Space–Time Regions*, Mathematical Structures and Modeling 30, pp. 4–14, 2014.
- [34] Kühnel, W., *Differential Geometry: Curves – Surfaces – Manifolds*, AMS, 2006.
- [35] Lang, S., *Complex Analysis*, 4a. ed., Springer–Verlag (Graduate Texts in Mathematics 103), 1999.
- [36] Lee, J. M., *Riemannian Manifolds: An Introduction to Curvature*, Springer–Verlag (Graduate Texts in Mathematics 176), 1997.
- [37] Lima, E. L., *Grupo Fundamental e Espaços de Recobrimento*, IMPA (Coleção Projeto Euclides), 2012.
- [38] Lima, E. L., *Análise no Espaço \mathbb{R}^n* , IMPA (Coleção Matemática Universitária), 2013.
- [39] López, R., *Differential Geometry of Curves and Surfaces in Lorentz–Minkowski space*, eprint arXiv:0810.3351, <https://arxiv.org/pdf/0810.3351>, 2008.
- [40] Matsuda, H., *A note on an isometric imbedding of upper half-space into the anti de Sitter space*, Hokkaido Math. J. 13, pp. 123–132, 1984.
- [41] Mian, J., *Fermi-Walker holonomy, second-order vector bundles, and EPR correlations*. Honours Thesis, National University of Singapore, 2015.
- [42] Müller, O.; Sánchez, M., *Lorentzian Manifolds Isometrically Embeddable in \mathbb{L}^N* , Trans. Amer. Math. Soc. 363, pp. 5367–5379, 2011.
- [43] Munkres, J. R., *Analysis on Manifolds*, Addison–Wesley, 1991.
- [44] Naber G. L., *Spacetime and Singularities, An Introduction*, Cambridge University Press, 1988.
- [45] Naber, G. L., *The Geometry of Minkowski Spacetime: An Introduction to the Mathematics of the Special Theory of Relativity*, Springer–Verlag (Applied Mathematical Sciences 92), 1992.

- [46] Nomizu, K., *The Lorentz–Poincaré metric on upper half-space and its extension*, Hokkaido Math. J. 11, pp. 253–261, 1982.
- [47] O’Neill, B., *Semi–Riemannian Geometry with Applications to Relativity*, Academic Press, 1983.
- [48] O’Neill, B., *Elementary Differential Geometry*, Academic Press, 2006.
- [49] Oprea, J., *Differential Geometry and Its Applications*, Prentice–Hall, 1997.
- [50] Osserman, R., *A Survey of Minimal Surfaces*, Dover, 1986.
- [51] Penrose, R., *Techniques of Differential Topology in Relativity*, AMS Colloquium Publications (SIAM, Philadelphia), 1972.
- [52] Ratcliffe, J., *Foundations of Hyperbolic Manifolds*, Springer–Verlag (Graduate Texts in Mathematics 149), 1994.
- [53] Remmert, R., *Theory of Complex Functions*, Springer–Verlag (Readings in Mathematics 122), 1991.
- [54] Ryan, P. J., *Euclidean and Non-Euclidean Geometry: An Analytic Approach*, Cambridge University Press, 1986.
- [55] Shilov, G. E., *Linear Algebra*, Dover, 1977.
- [56] Simmonds, J. G., *A Brief on Tensor Analysis*, Springer–Verlag (Undergraduate Texts in Mathematics), 1982.
- [57] Spivak, M., *Calculus on Manifolds*, Addison–Wesley, 1965.
- [58] Stoker, J. J., *Differential Geometry*, John Wiley & Sons, Inc., 1969.
- [59] Tenenblat, K., *Introdução à Geometria Diferencial*, Edgard Blücher, 2008.
- [60] Van Brunt, B., *The Calculus of Variations*, Springer–Verlag (Universitext), 2004.
- [61] Walrave, J., *Curves and Surfaces in Minkowski Space*, Doctoral Thesis, K.U. Leuven, Fac. of Science, Leuven, 1995.

Referências Adicionais

As referências abaixo apontam direções em que o leitor pode aprofundar seu conhecimentos no que é apresentado na Seção 4.1 do texto:

- [1] Alias, L., Chaves R.M.B., Mira, P., *Björling problem for maximal surfaces in Lorentz–Minkowski space*, Math. Proc. Camb. Phil. Soc. 134 (2003) 289–316.
- [2] Chaves, R.M.B., Dussan, M.P., Magid, M., *Björling problem for timelike surfaces in the Lorentz–Minkowski space*. Journal of Mathematical Analysis and Appli. 377, no. 2 (2011) 481–494.
- [3] Dussan, M.P., Magid, M., *Björling problem for timelike surfaces in the \mathbb{R}_2^4* . Journal of Geometry and Physics. 73 (2013) 187–199.
- [4] Dussan, M.P., Franco Filho, A.P, Magid, M., *The Björling problem for timelike minimal surfaces in \mathbb{R}_1^4* . Annali di Matematica Pura ed Applicata (1923–) (2016) 1–19.
- [5] Konderak, J., *A weierstrass representation theorem for Lorentz surfaces*. Complex Variables, 50, no. 5 (2005) 319–332.
- [6] Magid, M., *Minimal Timelike Surfaces via the Split complex Numbers*. Proceedings of PADGE 2012, Shaker Verlag, Aachen (2013).